

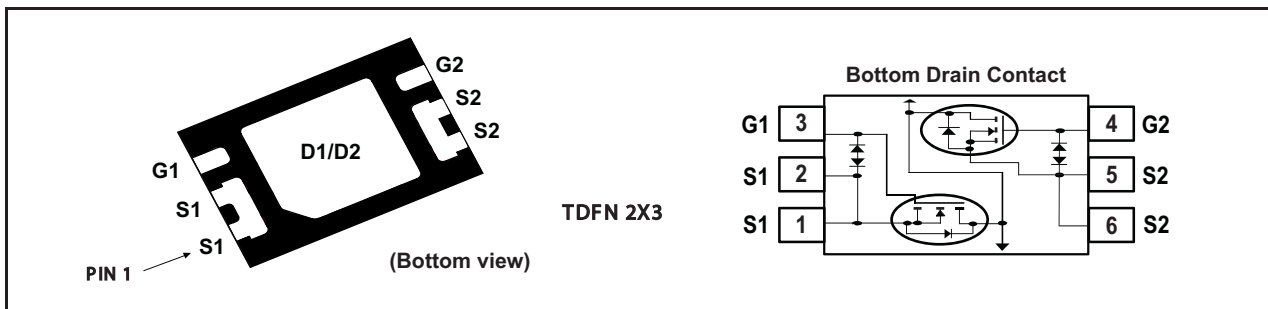


Dual N-Channel Enhancement Mode Field Effect Transistor

| PRODUCT SUMMARY | | |
|------------------|----------------|------------------------------|
| V _{DSS} | I _D | R _{DS(ON)} (mΩ) Max |
| 24V | 8.0A | 14.0 @ V _{GS} =4.5V |
| | | 14.3 @ V _{GS} =4.0V |
| | | 14.5 @ V _{GS} =3.7V |
| | | 16.5 @ V _{GS} =3.1V |
| | | 20.0 @ V _{GS} =2.5V |

FEATURES

- Super high dense cell design for low R_{DS(ON)}.
- Rugged and reliable.
- Surface Mount Package.
- ESD Protected.



ABSOLUTE MAXIMUM RATINGS (T_A=25°C unless otherwise noted)

| Symbol | Parameter | Limit | Units |
|-----------------------------------|--------------------------------------------------|----------------------|-------|
| V _{DS} | Drain-Source Voltage | 24 | V |
| V _{GS} | Gate-Source Voltage | ±12 | V |
| I _D | Drain Current-Continuous ^a | T _A =25°C | 8.0 |
| | | T _A =70°C | 6.4 |
| I _{DM} | -Pulsed ^b | 30 | A |
| P _D | Maximum Power Dissipation ^a | T _A =25°C | 1.56 |
| | | T _A =70°C | 1.00 |
| T _J , T _{STG} | Operating Junction and Storage Temperature Range | -55 to 150 | °C |

THERMAL CHARACTERISTICS

| | | | |
|------------------|------------------------------------------------------|----|------|
| R _{θJA} | Thermal Resistance, Junction-to-Ambient ^a | 80 | °C/W |
|------------------|------------------------------------------------------|----|------|

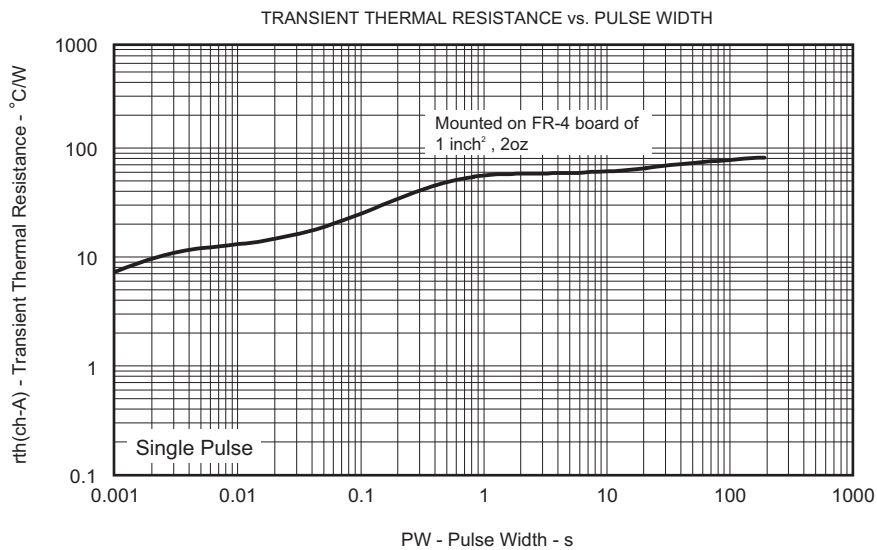
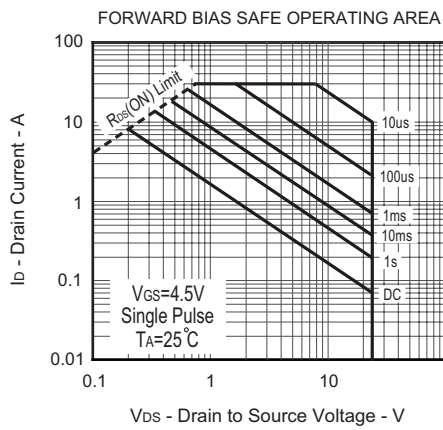
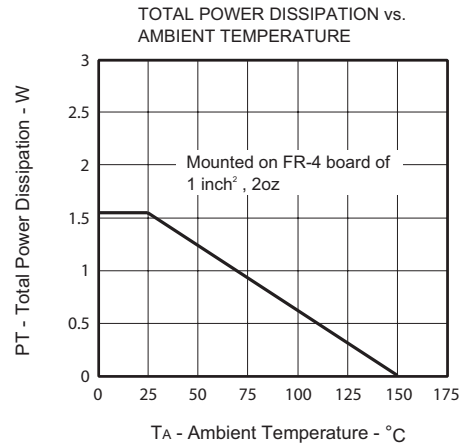
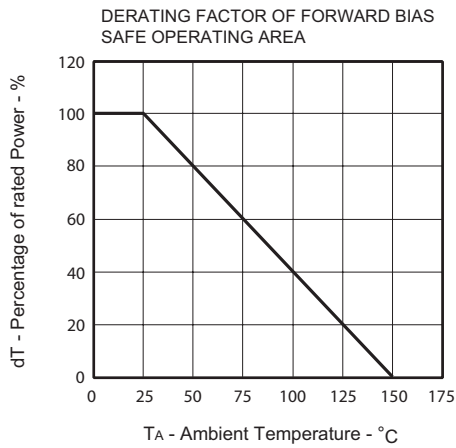
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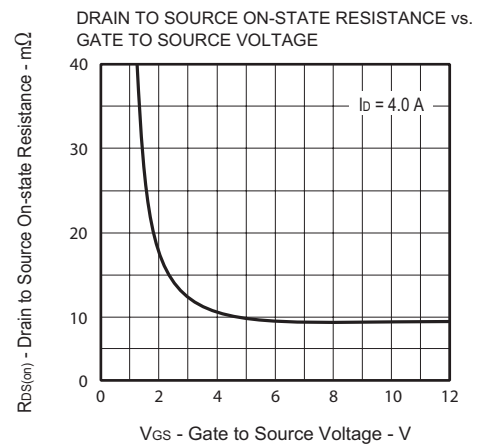
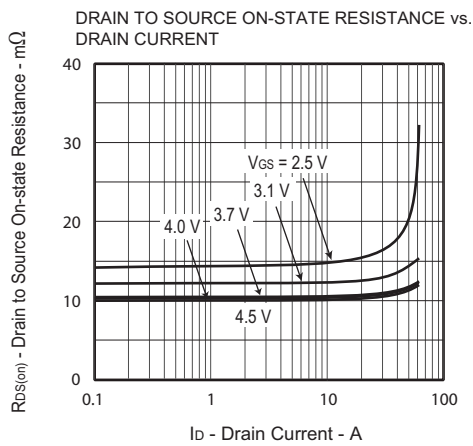
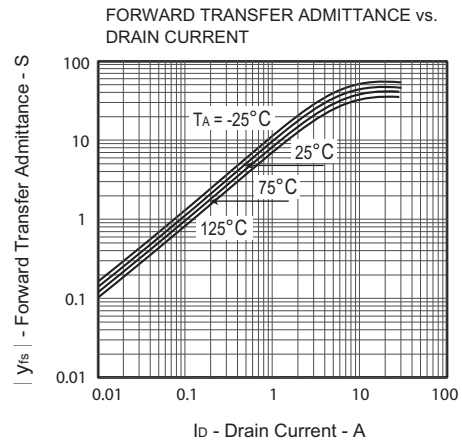
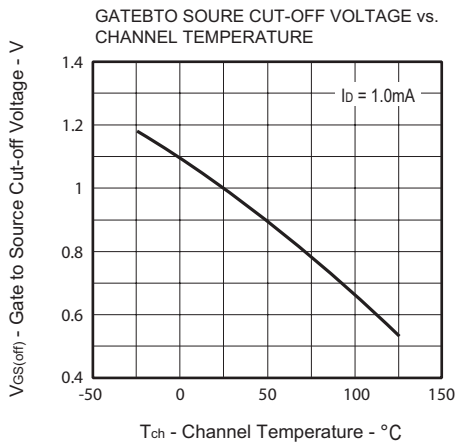
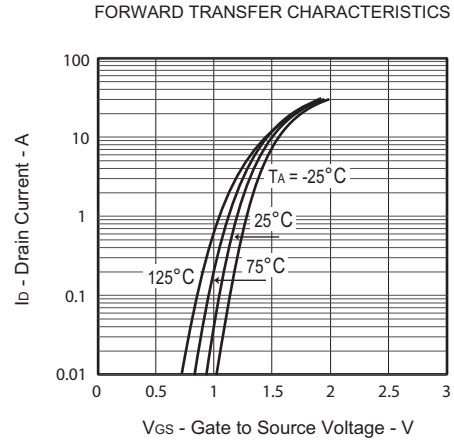
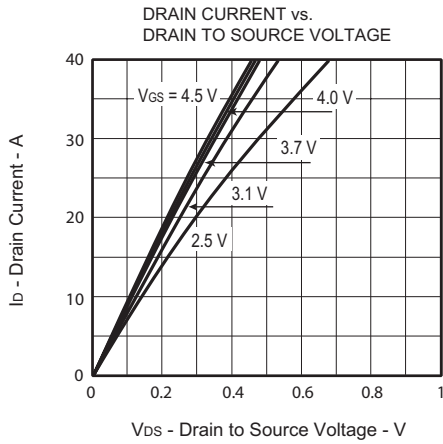
Ver 2.0

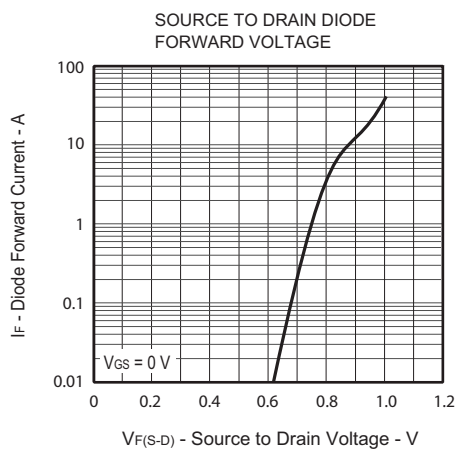
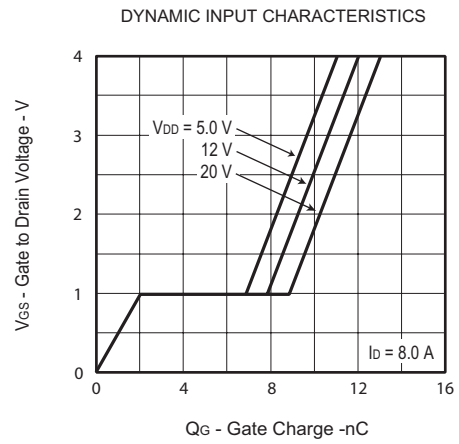
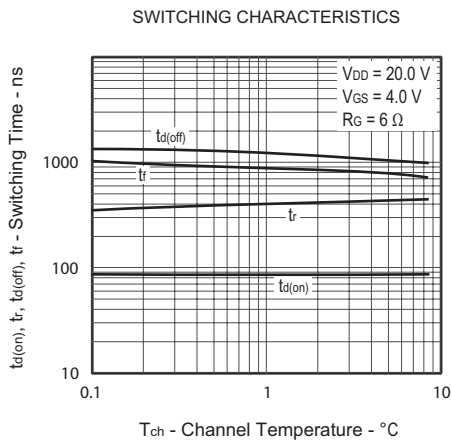
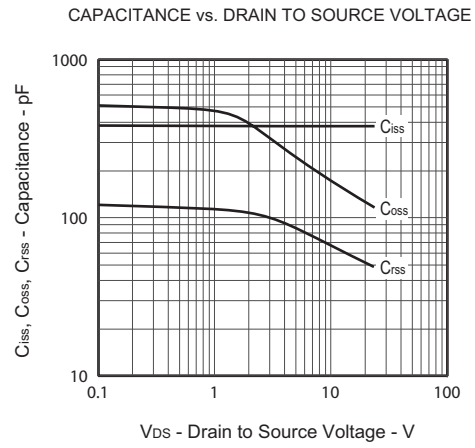
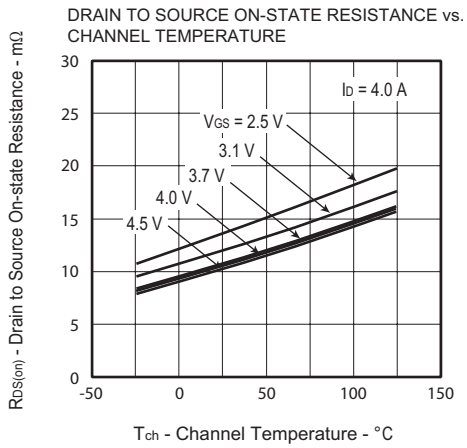
ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| Symbol | Parameter | Conditions | Min | Typ | Max | Units |
|---------------------------------------------------------------|----------------------------------|----------------------------------------------------------------------|------|------|------|-------|
| OFF CHARACTERISTICS | | | | | | |
| BV _{DSS} | Drain-Source Breakdown Voltage | V _{GS} =0V , I _D =250uA | 24 | | | V |
| I _{DSS} | Zero Gate Voltage Drain Current | V _{DS} =20V , V _{GS} =0V | | | 1 | uA |
| I _{GSS} | Gate-Body Leakage Current | V _{GS} = ±12V , V _{DS} =0V | | | ±10 | uA |
| ON CHARACTERISTICS | | | | | | |
| V _{GS(th)} | Gate Threshold Voltage | V _{DS} =V _{GS} , I _D =1.0mA | 0.5 | 0.8 | 1.5 | V |
| R _{DS(ON)} | Drain-Source On-State Resistance | V _{GS} =4.5V , I _D =4.0A | 9.0 | 11.0 | 14.0 | m ohm |
| | | V _{GS} =4.0V , I _D =4.0A | 9.3 | 11.3 | 14.3 | m ohm |
| | | V _{GS} =3.7V , I _D =4.0A | 9.5 | 11.5 | 14.5 | m ohm |
| | | V _{GS} =3.1V , I _D =4.0A | 10.0 | 12.5 | 16.5 | m ohm |
| | | V _{GS} =2.5V , I _D =4.0A | 12.5 | 14.5 | 20.0 | m ohm |
| g _{FS} | Forward Transconductance | V _{DS} =10V , I _D =4.0A | | 33 | | S |
| DYNAMIC CHARACTERISTICS ^c | | | | | | |
| C _{ISS} | Input Capacitance | V _{DS} =10V, V _{GS} =0V f=1.0MHz | | 380 | | pF |
| C _{OSS} | Output Capacitance | | | 180 | | pF |
| C _{RSS} | Reverse Transfer Capacitance | | | 67 | | pF |
| SWITCHING CHARACTERISTICS ^c | | | | | | |
| t _{D(ON)} | Turn-On Delay Time | V _{DD} =20V I _D =4.0A | | 80 | | ns |
| t _r | Rise Time | | | 435 | | ns |
| t _{D(OFF)} | Turn-Off Delay Time | V _{GS} =4.0V R _{GEN} =6 ohm | | 1150 | | ns |
| t _f | Fall Time | | | 725 | | ns |
| Q _g | Total Gate Charge | V _{DS} =20V, I _D =8.0A, V _{GS} =4.0V | | 13 | | nC |
| Q _{gs} | Gate-Source Charge | | | 2 | | nC |
| Q _{gd} | Gate-Drain Charge | | | 6.9 | | nC |
| DRAIN-SOURCE DIODE CHARACTERISTICS AND MAXIMUM RATINGS | | | | | | |
| V _{SD} | Diode Forward Voltage | V _{GS} =0V, I _S =8.0A | | 0.86 | 1.2 | V |
| Notes | | | | | | |
| a.Surface Mounted on FR4 Board, t ≤ 10sec. | | | | | | |
| b.Pulse Test:Pulse Width ≤ 300us, Duty Cycle ≤ 2%. | | | | | | |
| c.Guaranteed by design, not subject to production testing. | | | | | | |

Apr,15,2011







PACKAGE OUTLINE DIMENSIONS

